

## REMARKS

Claims 1-33 are pending in the present application.

Reconsideration on the merits is respectfully requested.

The claims are believed to be allowable for the reasons set forth herein. Notice thereof is respectfully requested.

### Rejections under 35 U.S.C. § 103

Claims 1-5, 7-10 and 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elliott (US 6,916,354) in view of applicants admission in paragraph [00024] of the specification.

Regarding claims 1, 7, 8 and 10, the Office argues that Elliott discloses a composite bullet comprising a tungsten ballast encased in an organic binder comprising thermoplastic binders such as PEBAX, a polyether block amide, and the bullet has a specific gravity in the range of 10.5 to 12.0 g/cc.

Applicant previously argued successfully, that Elliott fails to recite PEBAX prior to the filing date of the application and this argument was considered persuasive as indicated by the withdrawal of the rejection under 35 U.S.C. 102(e). The Office now opines that it would be obvious to incorporate the polymer based on the admitted commercial

availability without any indication of a motive for such a combination from the prior art. The only motivation for such a combination is in the present application which is an improper basis for a rejection as well established in patent law.

Elliotts' provisional application describes polyamides as acknowledged by the office. Elliotts' provisional application also list polyolefins and copolymers of ethylene vinyl acetate and polyesters. Nowhere in Elliotts' provisional application is there any mention of flexible polyether segments. There is not even a mention of polyamides being incorporated as rigid segments and certainly no mention of the polymer of the present claims. There is also no teaching to suggest one should consider these components or a component with similar properties.

The Office has indicated that Elliotts' provisional patent discloses that the binder can comprise a single polymeric entity or a blend of different polymers. One of skill in the art would consider the multitude of polymers meeting this description and have no basis for sorting one from the other based on Elliott. Well known examples may be explored such as nylons and polyesters, however, the Applicant has described in the background the failure achieved with these materials. Absent

the present invention there is no motivation to even consider the polymers specified in the present claims.

Applicant has admitted that PEBAX was known. It was, and is, recommended for use in rigid plastic applications such as sports equipment and mechanical parts. The antistatic versions used in the present examples were recommended for use in antistatic films. Based on the recited uses of PEBAX there would be neither indication, suggestion, or motivation to try to determine how they would perform with a high metal loading under the extreme conditions required in the present application. Even if one of skill in the art were familiar with PEBAX there is no indication from the art of record, from the previous uses of PEBAX or from any other source of record, except the present application, that this material would be useful as a binder for a ballast in a projectile. Furthermore, there is no motivation presented in the prior art which would lead one of skill in the art to attempt PEBAX or any polymer with rigid polyamide segments interspersed with flexible poly ether segments.

The only motivation for considering a polymer with rigid polyamide segments interspersed with flexible poly ether segments is provided by the present application. The rejection is therefore improper. `

Regarding claims 2, 3, 4, 5, 17, 22-24 and 26, Elliott neither recites PEBAX, nor a polymer with rigid polyamide segments interspersed with flexible poly ether segments prior to the present invention. The Office recites PEBAX 7233 at about 0.88, however, this is a newly entered recitation which has a filing date after that of the present invention and therefore this recitation does not constitute prior art. For the reasons set forth above one of skill in the art would have no basis, except hindsight, for considering a polymer with rigid polyamide segments interspersed with flexible poly ether segments based on those portions of Elliott which are proper prior art to the present invention.

In general, the Office argues that the general conditions of the claim are disclosed in the prior art and that the optimum or workable ranges involves only routine skill in the art. Applicants respectfully disagree since the combination of a polymer with rigid polyamide segments interspersed with flexible poly ether segments with a high metal loading to form a projectile is not known in the art and one of skill in the art would have no basis for such a combination absent hindsight.

Regarding claims 9 and 25 the Office opines that the teaching of Elliott might be interpreted as consisting essentially of tungsten. This interpretation can only be made

in hindsight with total disregard for the teachings of Elliott. Tables 2, 3 and 6 specifically recite 0.25 fractional weight of stainless steel in the ballast. Table 4 recites 0.25 fractional weight of carbonyl iron. Table 5 recites 0.25 fractional weight of bronze. In col. 4, lines 10-37, Elliott describes the function of the second metal as enhancing packing density. One of skill in the art could not interpret a composition with two materials wherein each has a specific function to consist of only one material. In fact, one of skill in the art would avoid using a ballast consisting essentially of tungsten due to the expected loss of packing density. The position of the Office is incorrect and properly withdrawn.

Claims 9 and 25 have been rewritten in independent form and are allowable for the reasons set forth above.

The Office states that the Applicant has failed to explain the criticality of the claimed binder. Applicants respectfully disagree. In the Examples it is specifically stated that the cited art is incapable of preparing a stable projectile with the weight and density obtained with the inventive projectile. There is no clearer, nor more convincing, showing of criticality than stating that the prior art fails to produce that which is produced by the claimed invention.

The rejection of claims 1-5, 7-10 and 22-26 under 35 U.S.C. 103(a) as being unpatentable over Elliott (US 6,916,354) in view of applicants admission in paragraph [00024] of the specification is improperly based on improper hindsight motivation. There is no indication in the record, or the cited art, of any motivation for combining the polymer of the claimed invention with a substantial amount of a ballast to form a projectile. Regarding claims 9 and 25, Elliott teaches against a ballast consisting essentially of tungsten.

Claims 13-16 and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elliott in view of Ikawa et al. (US 6,617,383).

Elliott has been discussed above and all comments are relevant herein.

The Office admits that Elliott does not specifically disclose that the projectile comprises a plasticizer such as n-butylbenzene sulfonamide. Ikawa et al. is cited as disclosing a thermoplastic elastomer composition comprising the plasticizer. The Office concludes that it would be obvious to one of ordinary skill in the art at the time the invention was made to include the plasticizer of Ikawa et al. in the composition of Elliott so as to confer improved processability.

Ikawa et al. is specific to the manufacture of tires. The ingredients referred to by the Office are included in a rubber mixture. The processing referred to is the formation of rubber tires from the composition. One of skill in the art would have no motivation for utilizing an ingredient suitable for improving the processability of rubber in tire manufacturing in the application of Elliott. First, there is no rubber to be processed in Elliott. Second, there is no processing in Elliott which equates to the manufacture of a tire. Therefore, neither the ingredient being processed nor the process being used is present in Elliott and therefore one would have no motivation for considering the use of the compound.

The combination of Elliott and Ikawa et al. can only be a hindsight combination based on motivation provided by the present application. A rejection based on such a combination is improper.

The rejection of Claims 13-16 and 18-21 under 35 U.S.C. 103(a) as being unpatentable over Elliott in view of Ikawa et al. is traversed.

Claims 6, 11 and 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elliott in view of Bray et al. (US 6,048,379).

Elliott has been discussed previously and all comments directed thereto are moot. In summary, one of skill in the art would have no motivation for considering polymers of the claimed invention for use in a projectile except by hindsight motivation based on the present application.

Bray et al. fails to augment Elliott in providing any teaching which would lead one to consider the specific polymers of the claimed invention.

The rejection of claims 6, 11 and 27-30 under 35 U.S.C. 103(a) as being unpatentable over Elliott in view of Bray et al. (US 6,048,379) is traversed.

Claims 12, 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elliott in view of Belanger et al. (US 5,237,930).

Elliott has been discussed previously and all comments directed thereto are moot. In summary, one of skill in the art would have no motivation for considering polymers of the claimed invention for use in a projectile except by hindsight motivation based on the present application.

Belanger et al. fails to augment Elliott in providing any teaching which leads one to consider the specific polymers of the claimed invention. Furthermore, Belanger et al. teaches



against the use of tungsten. It is not clear from the combined teachings if elements from one are compatible with the other.

The rejection of claims 12, 31 and 32 under 35 U.S.C. 103(a) as being unpatentable over Elliott in view of Belanger et al. is traversed.

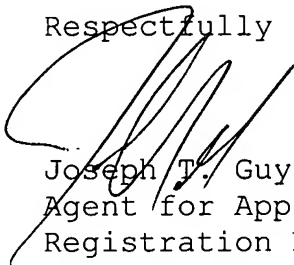
#### New Claim

Claim 33 is a newly entered claim which is believed to be patentable over the art of record. Elliott requires tungsten in the ballast whereas claim 33 is limited to a ballast which does not have tungsten.

### CONCLUSIONS

Claims 1-33 are pending in the present application. All claims are believed to be in condition for allowance. Notice thereof is respectfully requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'J. T. Guy', is written over the typed name and title.

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November 1, 2006